

# University News

MONDAY, OCTOBER 26, 1987

Rs. 1.50

## CONFLICT MANAGEMENT



From L to R : Prof. Moonis Raza, VC, University of Delhi, Prof. G. Ram Reddy, President, AIU & VC, Indira Gandhi National Open University and Prof. Ramlal Parikh, VC, Gujarat Vidyapith at the Group Discussion on Conflict Management organised by the AIU at Aligarh Muslim University.

# **PUNJAB AGRICULTURAL UNIVERSITY**

## **ADMISSION NOTICE**

Applications are invited for admission to Ph D. programme of the University in the following subjects for the academic session, 1987-88 commencing from 29th December, 1987

### **College of Agriculture**

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### **College of Basic Sciences & Humanities**

Botany; Chemistry, Biochemistry; Economics; Sociology; Genetics; Statistics; Microbiology; Zoology; Business Administration.

### **College of Veterinary Science**

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(i) For Inservice Candidates. A grade point average of 3.20 (4.00 basis) or 50% marks at Master's level in the respective field and a grade point average of 2.00 (4.00 basis) or 40% marks at graduation level.

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Inservice candidates shall be an employee of PAU/Punjab Government/ Union Territory of Chandigarh having atleast 5 years service with three years service after getting Master's degree on the last date of receipt of application.

Inservice candidates securing a minimum of 50% marks or above according to the table below rules (iii) of Rule 18 (b) of Admission Rules will be eligible for admission.

(ii) For other than Inservice candidates. A grade point average of 3.40 (4.00 basis) or 60% marks at master's level in the respective field and a grade point average of 2.00 (4.00 basis) or 50% marks at graduation level.

Note: (i) Please see Prospectus for the academic year, 1987-88 for detailed qualifications, reservation and fellowship, etc.

(ii) The candidates seeking admission to Ph.D. programme in Agricultural Engineering will have to appear for a

qualifying examination except the candidates for Energy Science & Technology and Electrical Engineering in the major field of specialization Engineering Sciences and Mathematics at 9.30 A.M. in the College of Agricultural Engineering, PAU, Ludhiana in addition to the interview on the scheduled date at 3.00 P.M. They should come prepared for qualifying examination and report to the Dean, College of Agricultural Engineering at 9.15 A.M. on 4.12.1987.

**Prospectus and application forms:** Available from the office of the Registrar, Punjab Agricultural University, Ludhiana on payment of Rs. 5/- per copy by cash at counter or by sending crossed Indian Postal Order(s) for Rs. 7/- payable to the Comptroller, Punjab Agricultural University at PAU Post Office, Ludhiana.

**Last date for receipt of applications .** 20.11.1987

Note: (iii) Only one application will be entertained for Ph.D. Programme on the basis of first preference of subject mentioned in the application form in the order of interview fixed below. Incomplete and without testimonials applications are liable to be rejected.

**Interviews :** Interviews will be held on the following dates, time and place mentioned against the subject:

Subject	Date	Time	Place of interview
Agronomy, Extension Education, Entomology, Plant Pathology, Food Technology	30.11.87	9.00 A.M.	Pal Auditorium Complex, PAU, Ludhiana
Plant Breeding, Pomology, Vegetable Crops, Animal Science and Soils	1.12.87	9.00 A.M.	—do—
Botany, Chemistry, Biochemistry, Business Administration	2.12.87	9.00 A.M.	—do—
Genetics, Zoology, Microbiology, Economics, Sociology, Statistics	3.12.87	9.00 A.M.	—do—
College of Home Science	4.12.87	9.00 A.M.	—do—
College of Vety. Science	4.12.87	10.00 A.M.	—do—
College of Agricultural Engineering and Energy Science & Technology	4.12.87	3.00 P.M.	—do—

Note: No separate interview letter will be issued. No T.A./D.A. is admissible

**D.S. Multani  
REGISTRAR**

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**Editor :**  
**SUTINDER SINGH**

# Conflict Management

**Syed Hashim Ali\***

A study of the conflicts facing the institutions of higher learning presupposes a full understanding of the objectives of higher education so that the obstacles which the conflicts create in the attainment of those objectives may be fully appreciated. Higher education in modern society seeks to preserve, transmit and advance knowledge, and is committed to change. The importance of education as an instrument of change and progress has been underlined over and over again by various educational experts, committees and commissions in India. The Kothari Commission (1964-66) observed: "The destiny of India is now being shaped in her classrooms. This, we believe, is no mere rhetoric. In a world based on science and technology, it is education that determines the level of prosperity, welfare and security of the people. On the quality and number of persons coming out of our schools and colleges will depend our success in the great enterprise of national reconstruction....."<sup>1</sup> The Commission went to the extent of asserting that "if this change on a grand scale is to be achieved without violent revolution (and even then it would be still necessary) there is one instrument and one instrument only, that can be used: Education".<sup>2</sup> It, therefore, strongly recommended that the framers of educational policy should try "to relate it (Education) to the life, needs and aspirations of the people and thereby make it a powerful instrument of social, economic and cultural transformation necessary for the realisation of the national goals."<sup>3</sup> About the functions of the universities, the Commission said: "while the fundamental values to which the universities owe their allegiance are largely unrelated to time or circumstance, their functions change from time to time. In the rapidly changing contemporary world, universities are undergoing profound changes in their scope, functions and organisation and are in a process of rapid evolution. They are assuming new functions and the older ones are increasing in range, depth and complexity".<sup>4</sup>

In the light of the recommendations of the Commission the National Policy of Education was formulated in 1968. The policy was revised in 1985 to formulate new strategies to meet the growing and changing needs of the Indian society. The document entitled "Challenge of Education—a policy perspective" enunciates the new policy and programmes of the Government in the field of education.

The new Policy document on Education and the above excerpts from the Education Commission's report clearly bring out the importance and the magnitude of the task before the Indian universities. It is for this reason that of late the university administration in India has been undergoing significant changes under the impulses of a changing and growing Indian society. During the last three decades, rapid expansion of educational facilities at the higher level, changing methods of instruction, reforms in the system of examination, intensification of research

[Based on author's Valedictory Address delivered at the Group Discussion on Conflict Management organised by the Association of Indian Universities at Aligarh Muslim University on 7-10 October, 1987]

\*Vice-Chancellor, Aligarh Muslim University, Aligarh.

activities, phenomenal rise in [student enrolment, galloping budgets of Indian universities, steady growth of the teaching and the non-teaching staff, management of a vastly expanding estate and provision of an increasing number of essential facilities in aid of teaching and research have made university administration a challenging task. It has grown enormously both in magnitude and complexities. The obsolete and out-moded methods of administration can no longer cope with the situation which now calls for the application of the techniques of scientific management.

The problems of administration and decision making in institutions of higher learning have become all the more complex and vexatious owing to growing conflicts of varied nature which are being generated by various factors and forces, both within the institutions and outside. Conflicts may broadly be divided into four categories:

- (i) Inter-personal conflicts,
- (ii) Group conflicts,
- (iii) Conflicts inherent in the organisational structure and administrative system of an institution, and
- (iv) Conflicts generated from outside.

“Conflict Management” is a new tool of the management science which is being applied widely in industry and commerce to resolve disputes, differences and disagreements in order to ensure optimal level of functioning of the commercial and industrial units. This technique can be used profitably in educational institutions as well, at least to reduce conflicts if not to eliminate them altogether. Surely, it will facilitate the achievement of the goals of higher education.

It should, however, be borne in mind that conflict is not always bad or undesirable. Conflict can also be of some value to an institution or enterprise. Franklin Roosevelt felt that conflict was necessary for effective policy making. The differences of opinion among advisers and functionaries on an issue cause a thorough examination of the issue in all its aspects and enable the top executive to eliminate bias and thus take the most rational and result oriented decision in a given situation. In the context of the institutions of higher learning healthy conflict or difference of opinion is desirable in academic bodies such as the Board of Studies, the Faculty, the Committee for Advanced

Studies and Research, the Academic Council, etc. Honest and constructive dissent will certainly lead to formation of better academic policies for raising the academic standards, improving the quality of research and for attaining of other objectives of the institution. Conflicts, however, turn out to be a curse and a serious impediment in the way of achieving goals when they emanate from extra-academic causes. It is these conflicts that are assuming grave proportions in Indian universities and call for a dispassionate and cool analysis. The factors and forces which are engendering these conflicts may be summed up as follows :

(i) India has been undergoing a social transformation since Independence. In fact the country has witnessed a social upheaval during the last four decades. As a result of the abolition of the Zamindari system and untouchability, efforts of the government at various levels to uplift the scheduled castes, scheduled tribes, backward classes and other weaker sections of the society, industrialisation at a massive scale which has changed the character of the Indian economy from the agrarian to an industrial one, and numerous legislative and other measures of the government to remove social inequalities, the centuries-old class structure based on the feudal system is crumbling down. A new social set-up is coming up in its place. The process of social stratification is making substantial demands on Universities for preferential treatment of the weaker sections in matters of admissions and appointments. The failure of the already over-crowded and overburdened universities to meet the demands adequately generates conflicts.

(ii) The post-Independence era is characterised by an upsurge in the field of education. The number of educational institutions has increased tremendously at all levels. In 1950-51 the total number of institutions was 2,31,000 which rose to an estimated 7,55,000 in 1984-85. The total student population shot up from 2.8 crores in 1950-51 to 11.4 crores in 1982-83. The country had just 20 universities in 1947, the number rose to 76 in 1968-69 and today we have 170 universities and university level institutions. However, this spectacular growth has been haphazard and without thoughtful planning. The result is that many of the universities lack the essential infrastructure and adequate financial support. While they are incapable of providing good teaching and proper research facilities even to a reasonable number of students, their enrolment figures are much too high. Despite their resistance the number of students continues to swell year after year, making their problems all the more serious. This obviously creates a tussle between them and the funding agencies. Moreover,

such a sorry state of affairs is prejudicial to the interests of higher education.

(iii) Political polarisation of universities is yet another source of conflicts. India is a multi-religious, multi-lingual, multi-racial, multi-cultural and multi-caste country. It abounds in political and non-political organisations based on each of these characteristics. The political parties vie with each other in creating their bases and strongholds in the universities in order to enlarge their area of influence and increase their following. They have no interest in education and no understanding of the educational problems. They betray dismal ignorance about the role of institutions of higher learning in society. They are simply interested in furthering their political ends. Conscious of the power of the youth in launching or carrying on any movement or for spreading any ideology, they concentrate on young men and women for their youth wings. They use the students and teachers for their nefarious political game without caring in the least for the studies of the students and their future. The All India Sikh Students Federation and the Assam Gana Parishad may be cited as instances of deep involvement of students in politics. It is evident that political parties vitiate the academic atmosphere of the universities. Their conflicting ideologies, programmes and ends generate conflicts and clashes amongst them on the one hand, and with the university administration, on the other. In their sustained struggle to have a dominating position in the affairs of the university so as to increase the number of their active members and supporters, the political parties spare no efforts in capturing as many faculty and administrative positions as they possibly can. The campuses are thus turned into political arenas. Sometimes violent methods are also used to pressurise the authorities resulting in the closure of the universities for short or long periods. Frequent recurrence of such ugly situations paralysing the functioning of the university often culminate in zero academic sessions. It is unfortunate that this has become a recurring feature of the higher educational set-up in the country. There are quite a number of universities afflicted with this malady and they conduct examinations of the last few years alongwith the examinations of the current year.

(iv) Besides political wings, universities and other institutions of higher learning also have non-political groups based on kinship, regional affinity, professional and class affiliation, personal relationship and sectarian bonds. These groups also endeavour to secure a commanding position in the affairs of the university so as to promote the interests of their men. The unions of the teachers, students and karamcharis

frequently use pressure tactics of dharnas, gheraos and strikes for getting their demands accepted. Their demands often run counter to the interests of the institutions and sometimes the demands are too fantastic to merit any consideration by the authorities. The other groups strive to get closer to the Vice-Chancellor and other people in authority in a bid to get their men inducted in various academic and administrative positions by hook or crook, fair or foul means. Manipulations of the worst type are made to eliminate deserving and meritorious candidates who are without the support or backing of any pressure group. It need hardly be stressed that such activities of the trade unions, pressure groups and other vested interests breed both inter-personal and inter-group conflicts within the institution. More often than not the conflicts pose a serious threat to the very objectives of higher education. The authorities sometimes succumb to pressure groups willy-nilly and all protestations about raising the academic standards, improving the quality of research and revamping the administration are reduced to a ridicule.

(v) The organisational structure, policies and procedures of an institution also sometimes give rise to conflicts. A well planned and sound organisational structure is the backbone of any institution. An ill-thought out organisational structure, even if manned with the best staff, will not yield the desired results. The heirarchical pattern should be designed carefully and intelligently keeping in view the objectives of the institution and the results to be achieved. The number of officials at each level of the heirarchy should be determined objectively on the basis of well defined norms of work and keeping in mind the span of control and the area of responsibility at each level. The functions and duties of each functionary from the top executive down to the lowest official should be clearly defined. Care should be taken to guard against dual control of workers by two functionaries. The system should provide for delegation of authority whenever so warranted by the exigencies of work. It should also have an inbuilt mechanism for performance appraisal and effective control. Unfortunately the organisational structure of most of the universities are a replica of the government model. The methods and procedures are also the same. It is yet to be realised that the problems and the conditions of academic institutions are different from those of the government and that academic administration is distinct from public administration. The existing organisational structures and administrative systems of the institutions of higher learning generate con-

licts as they tend to be exceedingly subjective and prone to inordinate delays in the disposal of cases and lack of effective mechanism for control and performance appraisal.

(vi) Our educational system still continues to be excessively academic in its contents and character. The much needed vocationalisation at the Higher Secondary level has been miserably slow. It is very depressing to note that even after 11 years of the introduction of the 10+2+3 scheme, the present intake in vocational programmes at the plus two level is about 72,000 covering only 2.5% of the student population. The result is that the pressure on the already over-crowded universities continues unabated. The new Policy Document on Education mentions that many of the 157 universities and 5,000 colleges have not been provided with a minimum level of infrastructure for the maintenance of quality and standards. How to cope with the swelling student population when they lack essential facilities even for their present numbers is a serious problem confronting the universities and is one of the major causes of conflicts.

(vii) There are complaints that calculated efforts are being made by the government to erode university autonomy slowly but steadily. The interference of the government in the affairs of universities is increasing on two pretexts—realisation of egalitarian goals and ensuring effective use of the resources by the universities. In the Acts of some of the State Universities the Chancellor has been vested with very wide powers including the power to dismiss the Vice-Chancellor if the latter, in his judgement, fails to ensure proper observance of the Act, the Statutes and the Ordinances. This state of affairs is surely disconcerting.

“The case for autonomy of universities”, observed the Kothari Commission, “rests on the fundamental consideration that, without it, universities cannot discharge their principal functions like teaching, research and service to the community.....”<sup>6</sup> Again the Committee of Model Act for Universities observed: “Autonomy for a university is not a matter of fundamental right, as it were, but it is a condition for its efficient functioning and for enabling it to achieve the true ideals.”<sup>6</sup>

From these excerpts it is evident that autonomy is vitally important for the functioning of a university. Moreover, the concept of university autonomy has to be understood and appreciated in a wider perspec-

tive, in the context of a system of interdependent variables—polity, economy, judiciary, society, etc. There can be no absolute autonomy implying complete independence, for, such an autonomy will only lead to chaos and anarchy. Autonomy presupposes accountability; it is a condition precedent to academic freedom. Without accountability no autonomy can be conceived. The universities like other autonomous organisations, including the government, are accountable to the public who pay the taxes and support them. They cannot, therefore, be treated as an exception to this basic and universally applicable principle. Once this condition is accepted, the universities should have full freedom to manage their internal affairs in the manner they like and there should be no interference or meddling from the government or from the funding agency in their internal functioning.

The Association of Indian Universities (AIU) should take up specific complaints about erosion of autonomy in certain universities. Complete data should be collected in this behalf in order to chalk out a course of action to prevent the recurrence of such onslaughts on university autonomy. Pernicious provisions in the Acts of some of the State Universities infringing their autonomy should be studied carefully by the AIU and then their cases taken up with the concerned authorities for the amendment of such provisions.

Finance is the most potent weapon in the hands of the University Grants Commission (UGC) or the State Govt. to erode university autonomy. The AIU should conduct a study of the financial affairs of a few selected universities from different regions and formulate financial norms on the basis of that study. The availability of such norms, based on empirical data, will go a long way in reducing wide financial disparities among Indian universities and will also decrease the potency of the UGC's financial weapon. The universities will then be in a better and stronger position to demand funds from the UGC or the State Government on the basis of those norms and their actual needs. The present range of financial disparity may be gauged from the fact that while the Hyderabad University is spending Rs. 28,283 per student and the JNU Rs. 27,529 the per capita expenditure in Aligarh is as low as Rs. 14,461. Evidently, this disconcerting situation can be remedied only with the help of standard norms.

After reviewing the major causes of conflicts in the country's institutions of higher learning I would



now like to make a few suggestions for improving the situation.

(1) The proliferation of non-viable universities should stop forthwith. No new university should be established unless adequate infrastructure is available and adequate recurring financial support can be assured to it. At present only 48% of the relevant age group is enrolled in higher education. It would be highly unwise to go on spending scarce financial resources without even achieving the minimum results. Owing to the poor infrastructure and dismal finances of many of the Indian universities the dropouts and failures together account for more than 59% of the students enrolled. Surely, this is a sheer wastage of the limited financial resources.

(2) Delinking of degrees from jobs upto a certain level will be a measure of far reaching consequences. It will reduce pressure of students on the already over strained universities. At present a university degree is considered essential for a very large majority of jobs. Delinking the degree from jobs will change the situation radically.

(3) Diversification and vocationalisation of education at the 10+2 level brooks no further delay. Steps should be taken in this behalf without any further loss of time in order to relieve the universities from excessive pressures and to help them streamline their academic and research programmes so as to become viable institutions of higher learning.

(4) Correspondence courses and open universities should also be encouraged and supported in a big way to enable the existing universities to concentrate fully on teaching of a higher standard and research of a fine quality. The mass media should be exploited fully for the correspondence courses programme.

(5) Politics cannot be banished completely from the universities. However, the universities should prepare codes of conduct for the students, teachers and other staff members requiring them not to use the university premises for their political activities and programmes so that inter-group clashes and quarrels might not vitiate the academic atmosphere of the university. The employees should also be required not to give any statement to the Press on a political issue. The students should be encouraged to take interest in the politics of transformation and development. They should keep themselves fully abreast of the latest developments and important political issues both at home and abroad. The young-

men and women of today are the leaders of tomorrow. It is, however, divisive, dirty and violent politics which should be discouraged and from which the students should be kept aloof.

(6) The universities have now out-grown the stage when they could be managed by obsolete and outmoded methods. The existing organisational structure and the administrative system of the Indian universities need to be examined thoroughly. Not only that the university administration has grown tremendously in magnitude, its complexities have also increased enormously. Application of the modern techniques of management is the effective



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solution to these problems. The modern methods of scientific management will revamp completely the existing cumbersome system, improve the level of efficiency and ensure a better and more effective management of its academic affairs. Every university should, therefore, attempt a thorough study of its administrative system with the help of management experts who should be asked to suggest an alternative system that will ensure better functioning at lesser cost. In this connection I would like to suggest that the university administrators (Registrars, Deputy Registrars, Assistant Registrars and functionaries of equal status in the Finance Department) should attend short term courses in management training so that they might become acquainted with the latest devices and techniques of the management science. The Western universities have liberally adopted a number of new management techniques such as MBO, PPB, etc. which have reduced administrative costs, on the one hand, and improved the level of efficiency, on the other. I would also suggest that the AIU should sponsor comparative management studies of Indian universities. Such studies have been made in the West and yielded good results. By making a comparative study of the administrative systems and procedures of two universities, each of the participating university can learn from the experiences of the other.

Purposive change can be brought about through management policies. The desired change can be

caused more quickly, with lesser cost and in a better way with new management techniques and devices rather than with the obsolete and out-dated methods.

(7) Delegation of authority is an important facet of university administration. In the context of the ever increasing pressure of work on the Vice-Chancellor and other important functionaries of the university, delegation of authority has become exceedingly urgent. The present administrative system is pregnant with serious flaws and defects. Not all the papers and cases put up to the Vice-Chancellor are of such a nature which need his consideration and orders. When the Vice-Chancellor remains awfully busy with routine and petty matters, he cannot obviously find time to attend to the developmental needs of the university. The Vice-Chancellor can be easily relieved of a large number of routine matters through delegation of powers which can be dealt with at appropriate levels in the hierarchy. This can, however, be done when there is provision in the Statutes of a university to delegate powers. In the Acts of many of the State universities no such provision for delegation of power exists. □

#### REFERENCES

1. India, Ministry of Education Report of the Education Commission, 1964-66. p.1.
2. Ibid, p.4.
3. Ibid, p.613
4. Ibid, p.274
5. Report of the Education Commission (1964-66) p. 326.
6. Ministry of Education Report of the Committee on Model Act for Universities. p. 8.

## ANNAMALAI UNIVERSITY ANNAMALAINAGAR

### 55th Annual Convocation-1987

Convocation for conferring Degrees, Titles and Diplomas will be held at Annamalainagar during the Second Week of December, 1987.

Filled in applications from candidates for taking degrees and titles **In Person/In Absentia** must reach the Registrar on or before **20th November, 1987**. Printed forms of applications can be obtained by sending a self-addressed envelope affixing 0.60p stamp.

Post Graduates, Professional and Research degree holders and Prize Winners in all other degrees are alone given the option for taking their degrees "**In Person**". All the rest are required to apply for taking degrees "**In Absentia**".

#### Correspondence Courses

Those who have not already submitted their applications for the degree/diploma (In Absentia) may submit the same before **20th November, 1987**.

**R. Rajamanickam**  
**REGISTRAR**



# CONFLICT MANAGEMENT

## Universities and Political Parties

G.B.K. Hooja\*

### Politics in Human Affairs

Dismayed by the large gap between the promises made by the politicians and political parties and their performance, the electorate, both the elite and the commoners are inclined to give a poor rating to the practitioners of politics. The acrimony engendered by the rough and tumble of electoral campaigns and the accompanying dubious horse-trading dissuades refined and cultured gentlemen from entering into the arena of politics and tends to strengthen the impression that the game of politics is not for them. But viewed dispassionately, can it be denied that each one of us has too willing a politician lurking inside us? As a matter of fact, it shall have to be conceded that politics is as inescapable in social life as economics. In all social activities, politics as well as economics must inevitably enter. They lubricate the social wheel; it is another matter that they may turn out to be the source of evil and conflict; nevertheless, they are necessary evils, and it remains for the social scientists and researchers to find ways and means of eliminating their evil propensities, of guiding them into healthy channels, for otherwise what is all this talk of university autonomy about? If universities will not study this highly critical and sophisticated subject, who shall?

Left to primitive impulses, there is a tendency in human affairs to go berserk. Like all fast-moving machines, human mind, that is human emotions too need to be controlled or braked when they tend to run amok. That is why the ancient ages of India prayed:

*may manah shivasamkalpamastu*—let my mind be of good intentions.

That is what Professor Gokhale, the political guru of Mahatma Gandhi, whom the latter chose to address as Mahatma, before he himself received the sobriquet, meant by saying that politics should be spiritualized. It is not this what a revered philosopher scientist living amongst us, namely, Dr. D S. Kothari

\*Former Vice-Chancellor, Gurukul Kangri Vishwavidyalaya, 5, Abul Fazal Road, New Delhi-110002.

means when he says that Science and spirituality should march hand in hand?

Provoked by a major challenge to his self-respect and national pride, after the train incident in far-away South Africa, Gandhiji felt called upon to enter politics; and he readily acceded to do so when urged by his compatriots to stay back and guide them. But it was essentially a religious pursuit for him, a link in the chain of his experiments with Truth. He did not seek personal power or aggrandizement. Let Gandhiji speak:

"If I seem to take part in politics, it is because politics encircle us today like the coil of a snake from which one cannot get out, no matter how much one tries. I wish, therefore, to wrestle with the snake, as I have been doing, more or less with success, consciously since 1894, unconsciously, as I have now discovered, ever since reaching the years of discretion."

He continues:

"Quite selfishly, as I wish to live in peace in the midst of bellowing storm howling round me, I have with myself and my friends by introducing religion into politics. Let me explain what I mean by religion. It is not the Hindu religion, which I certainly prize above all other religions, but the religion which transcends Hinduism, which changes one's very nature, which binds one indissolubly to the Truth within and which purifies."

Gandhi's concept of religion was cosmopolitan, universal, cosmic. According to him, religion constituted permanent element in human nature, which constantly strove to know its Maker and appreciated the true correspondence between the Maker and itself. Narrow dogmatism and formal ritualism was not his cup of religion. Non-violence and Truth were its corner-stones. Like all other virtues, these too had to be inculcated by assiduous discipline. That is why he had enjoined eleven vows for the inmates of his ashrama. These were besides Ahimsa and truth, celibacy, non-theft, non-possession, body-labour, control of the palate, fearlessness, equal respect for all religions, swadeshi, and refusal to treat anybody as un-

touchable. The object was to build a strong, disciplined army of satyagrahis fit to wage a war against not only the imperial power, but also the forces of evil within and without.

Amongst the virtues in a satyagrahi, he discovered self restraint to be the basic. While western politicians would like to draw a line between private conduct and political behaviour, Gandhi held that private morality had public consequences and, therefore, stressed the importance of 'inner' over the 'external' restraints of persons in positions of authority, relying upon ethical sanctions to guarantee public obligations. Satya Harishchandra was his model.

When Gandhi spoke of the political goal of swaraj, he clearly meant that only those who could rule themselves in the sense of self-restraint could rule themselves in the sense of controlling the political apparatus. A statement well worth musing over by those who control the levers of government of various institutions, including the universities.

To quote Gandhi again .

"To see the universal and all-pervading spirit of Truth face to face one must be able to love the meanest of creation as oneself. And a man who aspires after that cannot afford to keep out of any field of life. That is why my devotion to Truth has drawn me into the field of politics .. those who say that religion has nothing to do with politics do not know what religion means."

Having thus laid down two postulates (a) that politics is unavoidable in the affairs of men, and (b) that it is both desirable and possible to spiritualize it, we may examine the university system and how it may respond to them on the ground.

### Politics and Universities

In their very well-researched book, *Education and Politics in India* (1972) Susanne and Lloyd Rudolph and their learned collaborator, have tried to identify and analyze the processes that have largely shaped educational policy and performance in India over the last 150 years, with special reference to the relationship between politics and education. As pointed out by them, Governments have always used the educational sub-system to promote their plans and policies.

The modern system of education in India, as is

well-known, had its origin in the policy of anglicization of the elite adopted by the East India Company in pursuance of the famous minute recorded by Thomas Macaulay in 1835. The object was to build a class of people who would act as clerks and scribes of the British rulers and who would in due course, become anglicised in spirit, upholders of the British culture in this land of pagans. Raja Ram Mohun Roy had also added his weight to the victory of the anglicists over the classicists, although he himself never gave up his upanishadic moorings, and continued to work for a synthesis of the Oriental and Occidental cultures, but in the process supported by the Government aid, the Western system, modelled on the University of London, came to be transplanted on the Indian soil. Challenging notes were no doubt sounded by Indian patriots, notable amongst them being Swami Shradhdhananda, Gurudeva Tagore, Sri Aurobindo, Mahatma Gandhi, Lala Lajpat Rai, Dr. Zakir Hussain. But their influence remained marginal. By and large, the British transplant flourished as for instance in the Aligarh, Deccan and DAV movement and English education became the dominant partner in an Anglo-oriental milieu. In a manner of reckoning it insulated the university graduates from their Indian environment and diverted university attention and energies from local requirements; yet at the same time, it may be observed that the study of Western Philosophies tended to unlock the brains of the beneficiaries, thus leading to liberationist stirrings in political, social and economic spheres, a fallout, certainly unintended by the originators of the system. In the process, it turned out to be a mixed blessing.

Advent of Independence marked a watershed in the history of higher education in India. The ascendancy of Democracy has forced the educational system to respond to local needs. Although the structure of education has remained unchanged, there is discernible transformation in the content and language of education. Indian Universities are now more alive to their local environment and tend to play an increasingly relevant role as agents of socio-economic change.

Politicians are forced to respond to the demands of their constituents that avenues education should be expanded so that they can improve their social and economic standard. This has resulted in the diversion of larger resources and personnel to the educational system. Another result, of course, is heightened competition between politicians and educators for the control of the people, resources and goals involved.

It will thus be seen that political authority has all along influenced educational goals and horizons. While the British Raj lasted the educational sub-system subserved its imperial interests; and with the establishment of the Republic; it has now appropriately changed its direction, to subserve public interest.

This is not to say that the relationship between politics and education is unidirectional. Education, in turn, also influences politics. As has been observed above, the theories and programmes of nationalist leaders as well as the study of liberating philosophies of the West had a formidable impact on Indian political goals. It is in this background that the responsibility of the universities to study and examine various political systems, not excluding utopias, and thereby advance the frontiers of knowledge and develop new designs and strategies for consideration by policy makers operating in a Democratic set-up becomes self-evident, particularly, in a country, which carried the load of 2/3rd of its population being illiterate and 1/3rd lying below the poverty line, ill-nourished, under employed, shelterless and which has, therefore, yet miles to go before it can claim to have gained real swaraj. It goes without saying that the idealism that swayed politicians and national forces during the historic struggle for Indian freedom has ebbed away and given place to politics more oriented to power, personal gain and *kursi-daur*.

In this situation, control over the educational apparatus offers a ready-made leverage in the game of political advancement; at the same time may educational managers would like to use it as a spring-board for political power. When this struggle assumes to no-holds-barred tempo, the educational system is vitiated, and excellence in education is the first casualty. It is here that the true *guru* is put to a test; how to insulate the goal of professionalism in education from the contamination of unabashed political ambition and *soude-baazi*.

This is difficult to achieve if the academic community itself is riven by internal dissensions and surcharged by over-weening personal ambitions. Here again, the Gandhian formula of spiritualization of politics and the supremacy of inner over external restraints shows the path, and what is the best training ground for it, if not the academic seminaries?

## Indian Educational Service

In this context, the need to organize an all-India Educational Service (as it existed from 1864 to 1924) may also be considered. It should be counterpart of the I.A.S. in the educational sphere; and its members should enjoy equivalent status and emoluments to attract the best talent. This service may be used largely for administrative purposes, and may develop and expertise to meet the disciplinary and other organizational needs of the burgeoning educational system. Those who find pure educational and intellectual pursuits more in line with their nature and aptitude may yet have an opportunity to be diverted to the academic stream, even as such members of the I.C.S. were diverted to the Judiciary in the British times, for when all is said and done, the primary role of higher education is to develop creativity, innovation and research leading to the extension of frontiers of knowledge. To waste the time and talent of scholarly people in comparatively barren administrative fields is neither good economics nor good policy. The task of dealing with legislators, ministers, civil servants, trade unions, of fund-raising and development of real estate may best be left to the administrative wing of the I.E.S.

To sum up, in this republican age, under a democratic form of government, based on adult franchise, universities cannot live in isolation and politics must inevitably have an impact on university culture. There will be political parties, and there will be teachers with different ideologies. However, if they are scrupulous enough not to use their students as cannon-fodder, all may yet be well with the educational system and the nation.

In the Vedic prayer, we pray that our motherland may be bestowed with learned scholars; bold, stout-hearted warriors, scrupulous businessmen, keen agriculturists, devoted craftsmen, mothers who give birth to valiant sons, milk-yielding cows, strong oxen, swift horses, fruit-laden trees, bounteous harvests and life-giving rains, in short all that goes to make a nation strong and happy. May our universities provide the required atmosphere to induce these blessings. □

# Training Educational Administrators

Vidya Agarwal\*

Education is an individual as well as a social service. On the one hand it has to prepare the students for life and on the other it has to serve a social purpose. Both the tasks are of a highly complex nature which can be fulfilled only by highly trained personnel. The educational administrators have to bear the responsibility of monitoring and developing such a team of developed personnel. Also, they have to provide the facilities and proper environment for achieving these purposes. This calls for highly knowledgeable and skilled administrators. Training of managers for industries and other organizations is considered essential. The science of management in the field of industry has seen in the past lots of new developments. It has become a highly developed science. Many new concepts and theories have emerged which are being utilized for increasing production and managing the industry as effectively as possible. Emphasis on identification of scientific objectives, policy planning, conflict management, organizational development, personnel management, motivating employees, leadership and evaluation have resulted in a revolution in the field of industrial management. It can be said that today's industrial management is much more effective and efficient as compared to what it was ten-fifteen years ago. But the scenario in the field of education is entirely different. If any administrator in the field of education is asked a question 'what do you manage for or what is the objective you want to achieve', he may not be able to answer the question in a convincing manner. Similarly, it is difficult to say what dominant styles of administration or management the educational administrators use in their day-to-day work. The awareness of the theories and concepts of management science in case of educational administrators in India is very poor. They utterly lack conceptual knowledge of the management science. They also lack managerial skills. They have poor insight into human behaviour with the result they fail to get work from their subordinates. They are ignorant of leadership theories and effective styles of administration. The educational administrators in India learn routine administration through practice and in a trial and error manner. They only learn how to dispose of office files. They hardly learn how efforts can be made to achieve the objectives for which they

are recruited. The overall outcome of this state of affairs is that the educational administrators in India, by and large, are ineffective and the objectives of organization are not achieved.

This state of affairs is because of the fact that educational administrators in India are not imparted any kind of training in administration, the job they have to do for half their life. In the absence of any training how can they learn what administration is. Training aims at developing specific knowledge, attitudes and skills necessary for doing a particular job. Educational administration is a very complex job in the sense that it deals with human behaviour which is highly variable and difficult to be controlled. It requires, therefore, a highly specialized knowledge, very specific attitudes and highly sophisticated skills on the part of administrators. In order to be effective an educational administrator must know very specifically what he actually wants to achieve. In other words, he must have the competence of identifying and specifying the objectives. Next to this, he must be able to choose and use the most effective styles of administration. It is also necessary for him to learn how to motivate people working with him, how to resolve conflict, how to plan, how to evaluate the achievement of the objectives. The development of this kind of awareness and such skills is possible only through some kind of formal training and orientation.

Before a training programme for educational administrators is started, the assessment of training needs is essential. In any assessment of training needs, one seeks the answers to a few questions 'Is there any need to train educational administrators?' 'Who, if anyone, needs training?' 'What training do they need?' 'The questions themselves are simple, but obtaining good answers to them is one of the most difficult and important aspects of the total training process.

As regards the first question, 'is there any need to train the educational administrators,' it is being felt in developing countries that various tasks and challenges of educational development call for enhancing the capabilities of educational administrators to grapple with their challenging educational needs. There is a general feeling in these countries that educational administration needs a great deal of qualitative improvement. The role of training in educational administration is now well recognized for this purpose.

\*Lecturer, Department of Education, University of Allahabad, Allahabad.

In India also, the Ministry of Human Resource Development has started thinking in terms of training the educational administrators. National Policy on Education—1986 states that "Special attention will be paid to the training of educational planners, administrators and heads of institutions. Institutional arrangements for this purpose should be set up in stages" (Part X.10.5).

Though the need of training educational administrators is being felt by all, there is a lack of adequate knowledge of the need to which such training should be directed. Here the assessment of training need becomes essential. But the job is not so simple as it appears to be. In this regard Price observes that a training need exists when there is a gap between the present performance of an employee or group of employees and the desired performance.

Training in the field of educational administration is a very neglected aspect in India. While educational administrators readily acknowledge the necessity for more effective training for other employees, their reluctance to acknowledge the same necessity in respect of themselves has been the biggest obstacle in the introduction and execution of effective training programmes. There is an urgent need, therefore, for overcoming resistance to a training programme by demonstrating the concrete results of training. This can be done by explaining to the administrators the importance of training and how it will help them perform better.

As regards the second question, 'who, if anyone, needs training', I personally feel that the training in educational administration is required for educational administrators at all levels, from higher level to the lower one. Programme of Action, 1986 also has emphasized the training of educational planners, administrators and heads of institutions at all levels (Section XXIV).

The third question 'what training do they need', is still more difficult to answer. Briggs and Bhagia conducted a study on 'Professional Preparation of Educational Administrators in Developing Countries'. On the basis of their study they came to know that three types of special learnings are considered very important for educational administrators in developing countries :

- (i) Understanding of value system and educational policies of the country;
- (ii) Understanding of and coping with special problems and gaps in educational administration, and
- (iii) Skills of performing one's specific roles and responsibilities

In this regard the Ministry of Human Resource Development, Government of India, has described its future plan in Programme of Action :

- (i) Training of Senior level personnel will be designed to provide some exposure to educational perspectives and the role of education in social development and, in addition, include institutional planning and development, curri-

culum planning and, programme evaluation and review technique,

- (ii) For Heads of Institutions training in financial rules and procedures, legal provisions governing educational activities, personnel management, programme planning and data management and review techniques will be considered essential.

But before training is initiated, the objectives of the training programme for various categories of personnel like planners, administrators and heads of institutions will be defined in terms of job profiles of various levels of personnel and the required expertise, skill and institutional development (Programme of Action, Section XXIV : 20).

Briggs and Bhagia also suggest that curricula for training programmes for various levels of educational administrators need to be developed after identifying different types of requirements and capabilities, roles and responsibilities of different categories of educational administrators. For this purpose, 'job analysis' or 'skills analysis' has to be done. Job analysis involves the following five steps :

- (i) Analysis and determination of the major requirements of the specific job;
- (ii) Identification of the tasks needed to be accomplished to meet the job requirements;
- (iii) Understanding of the procedures needed to accomplish each of the job tasks;
- (iv) Analysis of the knowledge and skills needed to accomplish the procedures; and
- (v) Identification of any special problem of the job and analysis of any particular skill needed to meet the problem.

When the different types of requirements and capabilities, roles and responsibilities of different categories of educational administrators are identified on the basis of job analysis, a curricula for training programmes for educational administrators at various levels may be developed. Though a separate curricula will be required for each level of educational administrator, elaborate educational planning of programmes, projects, tasks and activities at various levels in financial management, leadership, handling of human problems, inspection and supervision, management of conflict, management of personnel, etc., which are the major functions of educational administration, need special attention in training educational administrators for meeting the challenges of implementing educational policies and programmes. □

#### REFERENCES

- Briggs, D.K. and N.M. Bhagia, "Professional Preparation of Educational Administrators in Developing Countries", *EPA Bulletin*, Vol. 8 Nos. 1 & 2, April and July 1985.
- Ministry of Human Resource Development, Government of India, *National Policy on Education—1986*, Part X : 10.5.—*Programme of Action*, Section XXIV : 18, 19, 20.



## Group Discussion on Conflict Management

The Association of Indian Universities (AIU) organised, in collaboration with the Aligarh Muslim University, a Group Discussion on Conflict Management at Aligarh from October 7 to 10, 1987. Registrars and other senior administrative personnel working in the universities and university level institutions attended.

Dr. Jagdish Narain, Secretary, AIU, in his opening remarks outlined this new activity of the Association and referred to the two earlier group discussions organised at Delhi and Udaipur for the Vice-Chancellors and Pro-Vice-Chancellors AIU is organising the present group discussion on Conflict Management for the benefit of senior university administrators, he added. He thanked the University Grants Commission (UGC) for meeting the travel expenses of the participants.

Prof. G. Ram Reddy, President, AIU and VC, Indira Gandhi National Open University, initiated the discussion on University Autonomy. He said that autonomy was very crucial for the functioning of the universities. The old concepts of autonomy are no longer valid. These days universities are totally dependent on the State for their finances. But there should be no interference in the academic affairs of the university. He wanted the university system to be vigilant against any external interference in their affairs.

Prof. Moonis Raza, VC, Delhi University, asserted that university autonomy is to be preserved. It presupposes a system of interdependence, and the concepts of autonomy and accountability have to go together. The universities are self-managers and self-correctors.

Prof. Ramlal Parikh, VC, Gujarat Vidyapith referred to the prevailing situation in universities and felt that their problems cannot be discussed

in isolation. An integrated approach has to be adopted. If autonomy is to be preserved, the participating units should realise their responsibilities and function harmoniously. Conflicts should be avoided. He wanted that no external force should influence the decision making process in the universities and they should be able to resolve their problems through a system of checks and balances. A conciliatory process should be evolved internally. He referred to the gradual erosion of university autonomy during the last two decades. The recent removal of the Vice-Chancellors under the pleasure clause of the Chancellors in certain States was a slur on the university system. He wanted that University Acts should be amended immediately so that the universities function efficiently and without any external pressures.

Shri Anand Sarup, former Secretary to Government of India in the Ministry of Human Resource Development, said that university autonomy cannot be had on a platter but it is to be earned. Universities should undertake introspection and analyse the factors which go in preserving and strengthening the autonomy. They should be able to keep peace and order on the campus, and declare results on time. He stressed the need for employing rigorous methods for recruitment of staff—teaching and non-teaching—in educational institutions. He wanted the grants of these institutions to be linked with their performance.

Shri R.K. Chhabra, former Secretary, UGC, initiated discussion on Delegation of Powers and Exercise of Authority and its Limitations. He felt that the delegation of power in universities is quite different from the delegation of financial and administrative powers in the government departments and army

establishments. The delegation in university system should lead to better and efficient functioning of these institutions and should be based on human considerations. He referred to universities as corporate bodies composed of students and teachers, where administrators have to play a key role as managers and implementors. However, they have to act within the framework of University Act and Statutes so that they do not act in an arbitrary manner. Their actions can always be questioned in a court of law so that they have to be very careful while exercising their authority. He said that delegation of academic power is more difficult than administrative and financial delegation as it has far reaching consequences.

Prof. Moonis Raza in his presentation on the Role of Political Parties in Universities made a distinction between politicking and politics. He felt that there was nothing wrong in students and teachers taking part in the politics of education but they should not involve themselves in politicking.

Prof. Rais Ahmed, former Director, NCERT and Vice-Chairman of UGC, initiated discussion on the Management of Change in University System. He felt that it is always difficult to bring about quick changes in the university systems. But once the objectives for change are accepted, special preparation is needed for quick implementation otherwise the changes will not take proper shape. The monitoring of the mode of change is equally important. Also, opinion in favour of change is to be generated quietly. In a democratic system the universities cannot function in isolation and consultation has to take place in the academic institutions at all levels. But the problem is that the university bodies over the years have become unmanageable and there is a need for making them compact so that



quick decisions are taken. Various suggestions have been made to streamline the university bodies. He referred to the agricultural universities model, which is working efficiently. The basic idea of committee system was to ensure the participation and consultation.

Prof. S K. Agrawala, VC, Agra University, in his presentation on Grievance Machinery and Arbitration emphasised the need for proper review of administrative decisions. He felt that the nature of grievance would determine the machinery for its redressal. He was of the view that the grievance redressal machinery in the university system should be clearly provided in university Act and Statutes. Any specific matter requiring special attention may be referred to the ad hoc machinery. He felt that there should be a provision for representation to the Chancellor or Visitor against the decision of university bodies. He,

however, felt that University Ombudsman would be helpful in removing many grievances.

Mrs. Rama Devi, initiated the discussion in regard to the setting up of Educational Tribunal. She clarified that the tribunals would be established wherever there is a High Court or its bench so that disputes in the universities may be looked into expeditiously. Regarding the composition of Educational Tribunal, she said that it would be presided over by High Court/Supreme Court judge. The other members could be eminent educationists and experienced administrators, who are familiar with the working of the universities. If the proposal was accepted by the government, the jurisdiction of lower courts and high courts for consideration of educational matters will be taken away and will vest in the Tribunal.

Prof. B.S. Sharma, Pro-Vice-

Chancellor, Indira Gandhi National Open University in his presentation emphasised the necessity to have an understanding in the system. He pleaded for greater productivity. He felt that conflicts if properly handled could result in evolution of better and efficient administrative machinery. He referred to the various sources of conflicts arising in the university system. The foremost cause was the lack of information, bad communication and confusion in regard to the objectives. He was against the exercise of positional power by academics and administrators. Constant adjustments should be made at all levels to avoid upheavals.

Prof Syed Hashim Ali, VC, Aligarh Muslim University in his Valedictory Address (published elsewhere in this issue) listed various causes that led to conflicts and offered possible solutions for avoiding conflicts in the university system. □

## National Conference on Role of Universities in Implementation of New Education Policy

The Association of Indian Universities will organise, in collaboration with Osmania University, a National Conference on Role of Universities in Implementation of New Education Policy on December 18 & 19 1987 at Hyderabad.

The New Education Policy (NEP) visualises the role of higher education as providing people with an opportunity to reflect on the critical, social, economic, cultural, moral and spiritual issues facing humanity. It contributes to national development through dissemination of specialised knowledge and skills.

The role of universities is crucial in the matter since one of the important functions of universities and institutes of higher learning is to provide specialized scientific and technical skills, imparting of knowledge, contributing to every sector of national development and improving social conduct and behaviour. Thus, a major share of responsibilities, as envisaged in the NEP, rests with the universities and other educational institutions. It becomes imperative for the educational community to try to define some of the important issues involved in the management of higher education, the efficiency improvement, the financing of higher education, youth services and physical fitness

programmes, education in human values, etc. in the light of the NEP recommendations.

The deliberations of the Conference will focus on the following topics :

- I. Management of Higher Education
- II. Improvement in Efficiency
- III. New Strategies in Higher Education

### PROGRAMME

*December, 18, 1987 (Friday)*

10.00 A.M.	INAUGURATION
11.30 to 1.00	SESSION I
2.00 to 4.30	SESSION II

*December 19, 1987 (Saturday)*

9.00 to 11.30 A.M.	SESSION III
12.00 to 1.30	SESSION IV
2.30 to 4.30	SESSION V (Plenary)

### Convenor

Dr. V. Natarajan  
Project Director (Exams.)  
Association of Indian Universities  
AIU House, 16 Kotla Marg  
New Delhi 110002.  
Telephone : 3310059  
Telex : 31-5578 AIU IN  
Telegram : 'ASINDU'



scale and unorganised sectors of employment.

(2) Efforts to change social attitude towards Education and Employment.

(3) Autonomous colleges to pioneer in introducing employment specific degree courses.

Papers were also presented on 'Degrees, Job and Manpower Planning', 'Industrially Relevant University Education,' 'National Testing Service' and 'Higher Education for Employment of Women'.

Eminent educationists, Principals of colleges and Senior Professors of different disciplines participated in the seminar.

### Demogenetic Project for Punjabi Varsity

The Ministry of Environment and Forests has awarded a research project titled "The Impact of Modernization Activities and Changing Environment on Demogenetic Composition of Human Populations of Garhwal, U.P. Himalayas" under Man and Biosphere (MAB) programmes in India to Professor I.J.S. Bansal and Dr S.M.S. Chahal of the Department of Human Biology, Punjabi University, Patiala. The objective of the study is to discern the role of various factors such as health status, geographic isolation, communication and migration in bringing about the ongoing changes in the demographic profile and genetic constitution of the local population.

### Orientation Programme for Government Executives

The Department of Business Administration & Management of Amravati University organised a three-day management orientation programme for government executives during September this year.

All the Sub-Divisional Officers of Amravati Revenue Division were the participants in this programme. Shri L.N. Lakhanpal, Commissioner of Amravati inaugurated the programme.

The topics selected for the programme were intended to improve the managerial qualities of these government officers by imparting new and accepted techniques of management. These included Transactional Analysis, Management by Objectives, Management Theories, Zero Base Budgeting, Time Management, Management

of Change, Marketing for government executives and Communications Management.

J.E.E. '88

The Joint Entrance Examination for admission to the I.I.Ts at Bombay, Delhi, Kanpur, Kharagpur and Madras and Institute of Technology, B.H.U., Varanasi will be held on May 4 and 5, 1988. Unlike previous years, this year there will be only three papers viz. Chemistry, Physics and Mathematics. The paper in English is being dropped from J.E.E. '88 onwards.

## News from Agril. Varsities

### Research on Alley Cropping

Australian scientists are researching a farming system which allows for the growth of two crops on the same piece of land at the same time. One has the potential to save the farmer money in the cost of nitrogen fertilisers; the other provides a conventional cash

return to the grower. The farming system involves the planting of a cereal crop such as maize or sorghum between alleys of a legume crop (leucaena) which acts as an efficient agent for the collection of nitrogen from the air and its transfer to the soil.

The system, known as alley cropping, involves the timely prun-

### INTER-UNIVERSITY YOUTH FESTIVALS 1987-88 (Sponsored by AIU and Deptt. of Youth Affairs & Sports, Govt of India)

Zone	Host Universities & Venue	Dates
North	Aligarh Muslim University, Aligarh	November 21-24, 1987
West	University of Bombay, Bombay	December 4-7, 1987
South	Madurai Kamaraj University, Madurai	December 26-29, 1987
East	Manipur University, Imphal	January 4-7, 1988
National	Amravati University & Punjabrao Krishi Vidyapeeth, Akola	January 25-29, 1988

ing of the fast-growing legume throughout the growth cycle of the cereal crop with the farmer leaving the cuttings in the paddock to decompose to mulch and act as a nutrient source for the other crop. The mulch enhances the fertility of the soil by releasing quantities of nitrogen, improving crop producti-

vity and at the same time reducing soil erosion.

The work is being undertaken at Griffith University in Brisbane and the division of tropical crops and pastures at the Commonwealth Scientific and Industrial Research Organization.

## News from Abroad

### 1987 Unesco Prize for Peace Education

Mr. M'Bow, Director-General, UNESCO, presented the 1987 Unesco Prize for Peace Education to the Swiss journalist and author Laurence Deonna and to the ecumenical organization "Servicio Paz y Justicia en America Latina in Paris recently.

Speaking on the occasion, the Director-General underlined Unesco's role in preserving peace and the activities it carried out in order "to foster a state of mind conducive to peace". "While within the United Nations system Unesco is not concerned with negotiations of a directly political nature," said Mr. M'Bow, "its contribution to peace is nonetheless indispensable. Through its co-operation in all spheres of intellectual life, it plays a key role in the constructive mobilization of consciences, the shaping of outlooks, and the foregoing of a commitment to peace and mutual understanding among peoples based on respect for each other's cultures and the realization of their common aspiration towards progress."

Over the past 20 years, Mrs. Deonna has published a number of moving articles in Swiss and foreign newspapers, which bear witness to her determination to bring peoples together through dialogue and mutual understanding without any ideological or religious bias. Her most recent book *La guerre a deux*

*voix* (the war with two voices), deals with women in Israel and Egypt. Her professed aim is to "establish a dialogue...between women who are enemies, who have been battered by war, and to show that what they have gone through, the way they live, the way they feel, what they say and, above all, what they do not say, is tragically, absurdly or logically the same".

The "Servicio Paz y Justicia en America Latina" (SERPAJ), which is based in Rio de Janeiro (Brazil), came into being in 1971 and was set up in Colombia in 1974. Describing itself as an "ecumenical Christian organization" with a non-violent vocation, SERPAJ runs peace education courses as well as training courses for grass-roots leaders. Accepting the prize on behalf of the organization, Father Perez Aguirre said that SERPAJ was greatly honoured and encouraged by the distinction, and that it would be widely felt in the region.

The Unesco Prize for Peace Education, which is worth 60,000 dollars, was established in 1980, thanks to a generous donation of one million dollars from the Japan Ship-building Industry Foundation. Its aim is to reward a particularly outstanding example of activity designed to alert public opinion and mobilize the conscience of mankind in the cause of peace, in the spirit of Unesco's Constitution and the Charter of the United Nations.

### PG Course in Islam and Christian-Muslim Relations

The University of Birmingham's Centre for the Study of Islam and Christian-Muslim Relations offers teaching resources for the university's postgraduate programmes in Islamic Studies. The Programme is established within the Faculty of Arts and is resourced by a specialist Centre related to the Department of Theology. The Unit comprises faculty with expertise in the major disciplines of *usul ad-din*, Islamic history and contemporary developments in Islamic religious thought, with regional expertise in the Middle East, South and South-East Asia, Africa and, very importantly, in Europe with its increasingly large Muslim communities. The Centre possesses a large and well-maintained library of printed books and academic periodicals in European languages, mainly English, and Arabic, and specialist documentation on Islam in Europe and Africa. An important collection of approximately 2,300 Arabic Islamic manuscripts is also housed in the Library and available to research students.

The Centre currently offers the following courses:

M. A. by course work and dissertation; M. Phil, M. Litt., and Ph.D. by supervised research presented in a thesis of approximately 40,000, 60,000 and 80,000 words respectively; P. G. Courses leading to University of Birmingham's Diplomas including Diploma in Islam and Diploma in Islam and Muslims in Britain; and special research programmes in the areas of Muslims in Europe, Islam and Christian Muslim Relations in Africa and the History and Theology of Christian Muslim Relations.

Further details can be had from the Director, Centre for the Study of Islam and Christian-Muslim Relations, Sally Oak College, 996, Bristol Road, Birmingham B29 6LQ, U.K.

# AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as a clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The Library has also developed Bibliography of Doctoral Dissertations as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in bibliography. Such Universities as are not sending us regular information in respect of Doctoral Theses accepted and research scholars enrolled are welcome to make use of these columns.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.

## RESEARCH IN PROGRESS

### A List of Research Scholars Registered for Doctoral Degrees of Indian Universities

#### PHYSICAL SCIENCES

##### Physics

1. Antony Shaju. *Laser spectroscopy of molecules*. BHU. Dr. S.N. Thakur.
2. Bisht, Rajendra Singh. *Equilibrium properties of liquid crystals*. BHU. Dr. Shri Singh.
3. Jugran, Bhawati Prasad. *Three body approach to transfer reactions*. BHU. Dr. V.S. Mathur.
4. Mishra, Jiten Kumar. *Studies of nuclear spectra*. BHU. Dr. P.C. Sood.
5. Prasad, Chintapenta Durga. *Non-equilibrium properties of semi-conductor surfaces*. BHU. Dr. R.S. Srivastava.
6. Prasad, Ila. *Semi-conductor-insulator-semiconductor interface*. BHU. Dr. R.S. Srivastava.
7. Praveesh, Chandranand. *Crystal growth and characterisation of semiconducting crystals*. BHU. Dr. R.S. Tiwari.
8. Roy, Mihir Kumar. *Transport properties of amorphous solids*. BHU. Dr. K.C. Sood.
9. Sabitha, P. *Synthesis, characterisation and thermal stability of amorphous materials*. BHU. Dr. R.S. Tiwari.
10. Sahay, Pradosh Prakash. *Semiconductor-insulator interface*. BHU. Dr. R.S. Srivastava.
11. Sanjay Kumar. *Molecular theory of fluids*. BHU. Dr. J. Ram.
12. Singh, Adesh Kumar. *Lattice dynamic properties of perfect and imperfect compound semiconductors*. BHU. Dr. S.S. Kushwaha.
13. Singh, Kamala Prasad. *Study of solid electrolytes*. BHU. Dr. P.N. Gupta.
14. Singh, Kamalendra. *Spectroscopic and structural studies on some biomolecules*. BHU. Dr. D.K. Rai.
15. Singh, Vipin Bihari. *Molecular spectroscopy*. BHU. Dr. S.B. Rai.
16. Sridharan, Vallabhapurapu Vijaya. *Mossbauer spectroscopic studies*. BHU. Dr. A.K. Nigam.

17. Torane, J.V. *Studies on development of biomass energy on waste land*. Shivaji. Dr. S.H. Pawar.
18. Tripathi, Chandra Charu. *Investigations on structural electrical behaviour of layered materials*. BHU. Dr. G.N. Srivastava and Dr. A.R. Singh.
19. Upendra Kumar. *Studies in Raman spectroscopy*. BHU. Dr. C.M. Pathak and Dr. P.C. Mishra.
20. Wali, A.A. *On certain problems of non-linear optical phenomena in the propagation and absorption of laser beams in different media*. Shivaji. Dr. M.K. Soudagar.

##### Chemistry

1. Chaudhari, S.K. *Thermodynamics of binary liquid mixtures*. Shivaji. Dr. S.S. Katti.
2. Chumbhale, V.R. *Alkylation reactions over synthetic zeolites*. Shivaji. Dr. P. Ratnasamy.
3. Dahiya, Krishan Kumar. *Metal complexes with O-S-N donor ligands*. Delhi. Dr. N.K. Kaushik.
4. Das, Kshamav. *Physico-chemical studies on clays*. Kerala. Dr. C.G.R. Nair and Dr. M. Lalithambika.
5. Gaur, Rajesh Kumar. *Nucleic acid chemistry: Synthetic DNA*. Delhi. Dr. M. Atrayi.
6. Gupta, Charu. *Synthesis of heterocyclic compounds as potential antifungal and anti-bacterial agents*. Delhi. Prof. V.K. Ahluwalia.
7. Gupta, Prem Chandra. *Co-ordination chemistry*. Delhi. Prof. B.S. Garg.
8. Gupta, Yogesh Kumar. *Chemistry of natural products*. BHU. Dr. Mahendra Sahai.
9. John, George. *Studies on applications of chemically modified natural polymers*. Kerala. Dr. C.K. Sadasivan Pillai, Dr. K.G. Das and Dr. K. Saramma.
10. Khanduri, Chandra Has. *Studies in heterocyclic compounds*. Delhi. Prof. V.K. Ahluwalia.
11. Mohammad Sultan. *Coordination chemistry*. BHU. Dr. H.P. Srivastava.

12. Nair, Maya P. *Studies on photo-electrochemical energy conversion system*. Kerala. Dr. K.V.C. Rao and Dr. C.G.R. Nair.

13. Prasad, Ashok Kumar. *Synthetic studies in natural isoflavonones, hanoisoflavonones and related polyphenols*. Delhi. Prof. A.C. Jain.

14. Ram Prasad. *Studies on some sulphur and nitrogen containing compounds*. BHU. Dr. P.K. Srivastava.

15. Sharma, Rakesh Kumar. *Synthesis of macrocyclic lactams and dilactones*. Delhi. Dr. V.S. Parmar.

16. Singh, Akhileshwar Pd. *Application of radioisotope in physico-chemical studies*. BHU. Dr. Ramji Tripathi.

17. Singh, Anuradha. *Stereochemical studies of organic compounds*. BHU. Dr. Radhey Mohan Singh.

18. Singh, Bijay Kumar. *Studies on photo-electrochemical solar cells*. BHU. Dr. Lal Bahadur.

19. Singh, Om Prakash. *Contact glow-discharge electrolysis*. BHU. Dr. S. Sengupta.

20. Singh, Pramod Kumar. *Complex compounds*. Delhi. Prof. B.S. Garg.

21. Singh, Rana Rajendra. *Synthesis and characterization of metal complexes of macrocyclic ligands having resemblance to biological systems*. Delhi. Dr. Ramesh Chandra.

22. Singh, Vinay Kumar. *Organo-metallic chemistry*. BHU. Dr. V.D. Gupta.

23. Srivastava, Madhu Rani. *Magnetic and spectral studies of 3d-metal complexes of biologically active ligands*. BHU. Dr. T.R. Rao.

24. Srivastava, Satendra Narayan Lal. *A study on the equality milk and milk products in the urban area of Varanasi*. BHU. Dr. Mahendra Sahai.

25. Uma Devi, P. *Studies on structure and properties of complex oxides of vanadium, niobium and molybdenum*. Kerala. Dr. K. Ravindran Nair.

26. Vaidya, Subhash Hari. *Modelling of multiphase reactors*. Shivaji. Dr. R.V. Choudhary.

27. Varghese, T.L. *Graft co-polymerization of vinyl-monomer on to special functional group triglyceride oil-caster oil and its characterization*. Kerala. Dr. Y. N. Krishna-moorthy.

28. Varkey, Bessy Abraham. *Corrosion inhibition and passivity of ferrous metals*. Delhi. Dr. Gurmeet Singh.

29. Varma, P.R. Harikrishna. *Studies on chemical methods of preparation of fine ceramic powder*. Kerala. Dr. K.G.K. Warriar and Dr. C.G.R. Nair.

30. Varshney, Manoj. *Structure and dynamic studies of microemulsions by pulsed N.M.R. spectroscopy*. Delhi. Dr. Amarnath Maitra.

#### Earth Sciences

1. Murali Krishna, K. *Invertebrate palaeontology and stratigraphy*. BHU. Dr. A.K. Jaitly.

2. Ojha, Jai Ram. *Mesozoic stratigraphy*. BHU. Dr. Jai Krishna.

3. Pandey, Bindhyachal. *Mesozoic stratigraphy*. BHU. Dr. Jai Krishna.

4. Rai, Arun Kumar. *Sedimentary petrology*. BHU. Dr. B.K. Chatterjee.

5. Singh, Surya Pratap. *Metamorphic petrology*. BHU. Prof. R.K. Lal.

6. Shinde, M.R. *Precambrian geology of Balaram Area, Banaskantha District, North Gujarat*. Shivaji. Dr. K.B. Pawar.

7. Varshney, Sanjeev Kumar. *Carbonates in alluvial sequences: A case study of the Siwalik Foreland Basin*. Delhi. Prof. S.K. Tandon.

#### Engineering & Technology

1. Das, Gautam. *Structure property correlations in titanium alloys*. BHU. Prof. D.S. Sarsa.

2. Jha, Jib Nath. *Rapid solidifications of steels*. BHU. Prof. C. Suryanarayana and Dr. S.N. Ojha.

3. Kulkarni, Prakash Jayant. *Bandwidth compression of video signals by digital techniques*. Shivaji. Dr. N.R. Phadnis.

4. Maheswara Rao, Toleti Brahma Vishnu. *Role of remote sensing in mineral exploration and environment*. BHU. Prof. B.B. Dhar.

5. Neetha, R. *Vibration analysis of annular sandwich plate using boundary element method*. Kerala. Dr. M. Sivarama-krishna Iyer.

6. Pal, Gorakh Nath. *Measurement of rheological properties of polymeric solutions*. BHU. Dr. Surendra Kumar Tewari.

7. Sharma, Jeetendra Kumar. *Mathematical modelling and response analysis of power controllers*. BHU. Dr. S.N. Singh.

8. Singh, Birendra Kumar. *Water inflow model for an U.G. Mine of Jharia Coalfields*. BHU. Dr. T. N. Singh, and Dr. D.P. Singh.

9. Singh, Raghwendra. *Structural weaknesses in coal seams and its effect on roof fall*. BHU. Dr. T.N. Singh and Dr. D.P. Singh.

10. Singh, Rajendra. *Close-range remote sensing of strata-deformation due to mining*. BHU. Dr. T.N. Singh and Dr. D.P. Singh.

11. Singh, Vinay Kumar. *Process development*. BHU. Dr. P.N. Tiwari.

12. Tewari, Hari Shankar. *Electrical and structural properties of substituted perovskite type compounds*. BHU. Prof. V.B. Taro.

13. Yadava, Deepmala. *Studies on copper catalysts*. BHU. Dr. Ram Prasad.

#### BIOLOGICAL SCIENCES

##### Marine Biology

1. Arumugham, N. *Studies on certain ecological aspects of Manakkudy Estuary*. Kerala. Dr. P. Natarajan.

##### Biophysics

1. Sri Rama Chandra, Sabinkar Yuvaraj. *Studies on enzymes of thermophilic cyanobacteria*. BHU. Prof. S. Srinivasan.

##### Biochemistry

1. Jayanti, Sushma. *A study on the antipollutant effect of some aquatic plants*. BHU. Dr. H.P. Pandey.

2. Mathews, Mary Susan. *Biochemical changes in pregnant rats on parathion toxicity*. Kerala. Dr. K. Saraswathy Devi.

3. Pandey, Sanjay Kumar. *Effect of some anticonvulsant drugs on cerebral metabolism on rats*. BHU. Dr. Raj Shankar.

4. Prasad, Jai Prakash. *Biochemical study of certain leaf protein concentrates*. BHU. Dr. H.P. Pandey and Dr. R.H. Singh.

5. Sassaie, Mohammad Javed. *Development of simple sensitive immune assays for clinical diagnosis*. BHU. Dr. H.P. Pandey.

6. Singh, Arun Kumar. *Studies on mitochondrial deoxyribonucleic acid*. BHU. Dr. G.R.K. Rao.

7. Srinivasamurthy, Srinivasula. *Molecular biology of host virus interactions*. BHU. Prof. M. Chakravorty.

##### Botany

1. Harijan, Ram Chandra. *Phycology - Algal cytology*. BHU. Dr. R.B. Chaudhary.

2. Jayashree, S. *Morphogenic responses of some flowering plants*. Delhi. Prof. S.C. Gupta.

3. Khatavkar, S.D. *Studies on bioindicators of industrial and domestic pollution*. Shivaji. Dr. R.K. Trivedy.

4. Mallick, Nirupama. *Algal biology*. BHU. L.C. Rai.

5. Pandey, Vidhu Shekhar. *Pollution ecology*. BHU. Dr. B.D. Tripathi.

6. Patil, B.J. *Studies in mucorales (zygomycetes)*. Shivaji. Dr. M.S. Patil.

7. Srivastava, Nirupama. *Algal cytology*. BHU. Dr. B.R. Chaudhary.

##### Zoology

1. Ghosh, Dhruba. *Molecular parasitology*. Delhi. Dr. V.K. Bhasin.

2. Bahadur, Min. *Evolutionary cytogenetics*. BHU. Prof. T. Sharma.



3. Mehra, Neera. *In vitro studies on malaria parasite.* Delhi. Dr. V.K. Bhasin.
  4. Menon, Jayasree. *Interaction of pesticides with non-target organisms.* Delhi. Dr. Rup Lal.
  5. Mohanty, Jayashree. *Cytogenetics study in lower vertebrates.* BHU. Dr. R. Raman.
  6. Mookerji, Nandita. *Feeding ecology of larval fishes.* Delhi. Dr. T.R. Rao.
  7. Sheila, P.K. *Studies on the nasal and ocular copepod parasites of marine teleost fishes.* Kerala. Dr. S. Balaraman.
  8. Sharma, Asha. *Feeding ecology of larval fishes.* Delhi. Dr. T.R. Rao.
  9. Sinha, Shivendra Prasad. *Entomology : Insect physiology and toxicology.* Delhi. Dr. H C Agarwal.
- Medical Sciences**
1. Anith Kumar, T. *Ecological studies of Ganges with special reference to water.* BHU. Prof. S B. Gaur.
  2. Asgar Ali. *Development of programmed drug delivery systems.* Delhi. Dr. S N. Sharma.
  3. Mishra, Sibnanda. *Cerebral localization with neuropsychological test battery.* BHU. Dr. I. Sharma.
  4. Misra, Mahendra Kumar. *A study on biochemical correlates of anxiety.* BHU. Prof. R.H. Singh and Dr. H.P. Pandey.
  5. Pavan Kumar. *Human genetics.* BHU. Dr. R. Bamezai.
  6. Sarkar, Souvendra Nath. *Antacid pharmacology.* BHU. Dr. S.B. Acharya.
  7. Shanmugham Pillai. S.M. *Seborrheic dermatitis.* Kerala. Dr. B K. Harceendran Nair.
  8. Shanti Devi, Kangjam. *Oxidant toxicology and its protection with special reference to role of bioflavonoids.* BHU. Prof. S S. Gambhir and Dr. B L. Pandey.
  9. Singh, Narendra Kumar. *Characterization of biological micromolecules synthesis following treatment with anticulceric drugs.* BHU. Dr. S.K. Patnaik and Dr. S.N. Pande.
  10. Singh, Sanjay. *Development of release dosage forms of some newer drugs.* BHU. Dr. S.S. Jayeswal.
  11. Sinha, Vivek Ranjan. *Study of parenteral depot preparation of pentazocine.* BHU. Dr. J K. Pandit.
  12. Varma, Shashjit Lal. *Psychiatric morbidity in first degree relation of schizophrenia.* B.H.U. Dr. I. Sharma.
  13. Vasudeva Murthy, A R. *A clinical study of pulse (Nadi) in the light of the concept of tridosha.* BHU. Prof. R.H. Singh.

## THESES OF THE MONTH

A List of Doctoral Theses Accepted by Indian Universities

### PHYSICAL SCIENCES

#### Mathematics

1. Arjumand Shair Ali. *Some exact solutions and Petrov classifications of the Einstein field equations.* Osmania.
2. D'Souza, Robert John. *Some aspects of shear and natural convective flows obeying Arrhenius law of viscosity.* IIT Delhi. Prof. K.N. Mehta.
3. Jain, Vinod Kumar. *A study of certain identities of basic hypergeometric functions.* D Sc. Rohilkhand.
4. Misra, J N. *Some stability problems in hydrodynamics and hydromagnetics.* H P.
5. Siddheshwar, Pradeep G. *Laminar and turbulent convection porous media.* Bangalore. Dr. N. Rudraiah.
6. Soni, Ratan Chand. *On the role of tachyons in relativity.* Durgawati.
7. Thukral, Jitendra Kumar. *Some classes of normal-like operators on Hilbert space.* Delhi.
8. Tiwari, Rajesh Kumar. *A study of mappings in topology.* HS Gour. Dr. S.N. Maheshwari.

#### Statistics

1. Bagai, Isha. *Tests for some statistical hypotheses under the competing risks model.* Panjab.

#### Physics

1. Ajay Kumar. *Photo-stimulated changes in some amorphous chalcogenide thin films.* IIT Delhi. Prof. K.L. Chopra and Dr. L K. Malhotra.
2. Ashokan, R. *Raman study of ion-implanted and pulse laser annealed gallium arsenide.* IIT Delhi.
3. Bishat, Harsh Singh. *X-ray and neutron diffraction, electrical and magnetic studies of substituted lithium ferrites.* Nagpur. Dr. D K. Kulkarni.
4. Biswas, Subhaschandra. *Structural studies of some organic compounds.* Calcutta.
5. Dhariya, Arvindchandra. *Some studies in the X-ray spectra.* Vikram. Dr. B.D. Srivastava.
6. Diwan, Deepti. *Studies on electro-optical properties of rare earth doped II-VI compounds.* Ravishankar. Dr. Shashi Bhushan.

7. Dubey, U.B. *Study of non-linear, time-dependent and damped systems.* Gorakhpur. Dr. S K. Bose.
8. Mishra, Ashutosh. *Some studies in the X-rays absorption spectra.* Vikram. Dr. B.D. Srivastava.
9. Mohan, Pramila. *Neutron transport studies in fast  $^{232}\text{Th}$  and  $^{232}\text{Th}$ — $^{233}\text{U}$  systems.* Delhi.
10. Palanisamy, M. *Studies on ice nucleating behaviour of AgI—AgBr—CuI and AgI—AgCl systems.* Anna.
11. Rajaram Shenoy, M. *Studies on optical waveguides used in fiber and integrated optic devices.* IIT Delhi. Dr. K. Thyagarajan and Dr. Arun Kumar.
12. Sarkar, Mamata. *Resonance Raman studies on some metalloporphyrins.* NEHU. Dr. A L. Verma.
13. Soni, Ravi Kant. *Resonant Raman scattering in III-V alloy semi-conductors.* IIT Delhi.

#### Chemistry

1. Bambzai, Rajinder Kumar. *Polymorphism of smectic liquid crystalline substances.* Jammu. Dr. N.K. Sharma.
2. Bandyopadhyay, Debabrata. *Chemical studies on the extractives of some Indian medicinal plants.* Calcutta.
3. Chattopadhyay, Prabir Kumar. *Chiro-optical studies on rare earth single crystals.* Calcutta.
4. Chaudhuri, Udaysankar. *Studies on some glycoside bearing Indian medicinal plants.* Calcutta.
5. Das, Pradip Kumar. *Studies on hydroxybiguanides.* IIT Kharagpur.
6. Dubey, Raj Kumar. *Some aspects of the bi- and tri-metallic alloxides of cobalt and copper.* Rajasthan. Dr. R.E. Mehrotra.
7. Grover, Neeraj. *Synthesis of analogues of neohydrocarpin.* Delhi.
8. Hussain, Mohammad Sardar. *Coordination chemistry of transition metal ions.* Karnatak. Dr. A.S.R. Murthy.
9. James, C. *Thermal annealing of chemical radiation damage and thermogravimetric studies on the effect of irradiation on the thermal decomposition of some inorganic salts.* Calicut. Dr. S. Madhavankutty Nair.
10. Maharana, Prafulla Kumar. *A study of radiation and catalytic induced reaction.* Berhampur.
11. Mohanty, Smita. *Synthetic studies in benzopyran derivatives and chalcones.* Delhi.
12. Naphade, Vilas J. *Study of the photo-chemical and chemical reactions in oxygen-nitrogen heterocyclic compounds.* Nagpur. Dr. B.J. Ghiya.

13. Narasimha Murthy, Lanka. *Physico-chemical and antimicrobial activity studies on the ternary complexes of copper (II) with 8-hydroxyguanine/5-7-dihalo-8-hydroxyguanine and acetyl-acetone/diethylthiocarbamate as hetero ligands.* Nagarjuna.

14. Palsodkar, Suresh D. *Studies on rare earth complexes.* Nagpur. Dr. V.D. Deshpande.

15. Panda, Chittaranjan. *Coordination and solvent extraction behaviour of some actinides and zirconium.* Utkal.

16. Pipalia, D.B. *Studies on drug potential.* Saurashtra. Dr. A.R. Parikh.

17. Ramavat, Bharatkumar Kalidas. *Studies on chemistry of marine algae of Saurashtra Coast.* Bhavnagar. Dr. A.V. Rao.

18. Ramesh, Visvanathan. *Analytical applications of some commercial chelating extractants.* IIT Delhi. Prof. G.N. Rao.

19. Saha, Hara Lal. *Thermal decomposition reactions of metal carboxylate complexes in solid state.* Manipur. Dr. Samiran Mitra.

20. Shrivastava, Madhulika. *Studies on analytical application of 2-thiorotic acid and its complex formations with some of the rare earth elements.* Ravishankar. Dr. G.S. Pandey.

21. Shukla, Dipak Balvantra. *Utilisation of indigenous resources in the studies of synthetic zeolites and silicates.* Bhavnagar. Dr. V.P. Pandya.

22. Sunita Devi. *Studies on synthesis and biological activity of structures containing heteroatom.* Punjab Agri.

#### Earth Sciences

1. Dogra, Niki Nand. *Palynostratigraphy of Jabalpur and Lameta Groups of sediments in the type area.* Panjab.

2. Girijesh Kumar. *Geochemistry of hydrothermally impregnated sediments from parts of East Pacific Rise.* Delhi.

3. Gurudev, M.B. *Studies on the banded iron formations and associated rocks between Haikal Amingarh Area, Bijapur District, Karnatak State.* Karnatak. Dr. B.K. Wodeyar.

4. Jaiprakash, B Chikkarayan. *Late pliestocene planktonic foraminifera from DSDP sites 214, 237 and 238 in the northern Indian Ocean. Systematics, paleontologic time series and paleoclimatic implications.* IIT Kharagpur.

5. Ravi Prakash, Somayajula. *Hydrogeological aspects of the Paravada area, Visakhapatnam District, Andhra Pradesh.* Andhra.

6. Ray, Tushar Kanti. *Ocean-atmosphere interaction and the summer monsoon of India.* IIT Delhi. Prof. P.K. Das and Dr. S.K. Dube.

7. Satya Prasad, Devalla. *Morphodynamics of the beaches and sand spit, Kakinda Bay, East Coast of India.* Andhra.

8. Satyanarayana Murty, Pappala. *Clay mineralogy and geochemistry of Visakhapatnam shelf sediments, East Coast of India.* Andhra.

9. Venkatesh, Akella Satya. *Palaeomagnetic and geochemical studies on dolerite dykes from Tamil Nadu, India.* Andhra.

#### Engineering & Technology

1. Acbeekar, Ashok G. *Identification, classification and isomorphism of kinematic chains and mechanisms via identification codes.* IIT Delhi. Dr. V.P. Agrawal.

2. Anand, Jagdish Raj. *Analysis of incipient deformation of work material under orthogonal cutting conditions.* IIT Delhi. Dr. G.S. Sekhon and Dr. K.S. Shishodia.

3. Appa Rao, Dogga. *Development of optimal stilling basins for small drop structures.* IIT Kharagpur.

4. Chattopadhyay, Bikas Chandra. *A study on ultimate resistance on piles in cohesionless soil under pulling loads.* IIT Kharagpur.

5. Govindan, P. *Composite action and ductility of reinforced concrete frames with brick infill.* Anna.

6. Jain, Komal Chandra. *Investigation in surface grinding of hardened En24 steel.* IIT Delhi.

7. Kishta Reddy, N. *Physico-chemical studies on silicon-carbide silicon-nitride composite refractories and self-bonded silicon carbide.* Osmania.

8. Meher, Nidhi. *Simulation analysis and microprocessor-based state feedback control of a current source inverter induction motor (CSI-IM) drive.* IIT Kharagpur.

9. Naidu, M. Munirathnam. *Some studies in lot sizing for material requirements planning systems.* IIT Delhi. Dr. N. Singh.

10. Patel, Jashvant Jayarambhai. *Breakdown phenomena and evaluation of testing methods under bias voltages.* Baroda.

11. Rakshit, Rashmi. *Evaluation of passive techniques in non-conditioned buildings.* IIT Delhi. Prof. H.P. Garg and Dr. N.K. Bansal.

12. Sardana, Guru Datt. *Studies in productivity measurement through performance objectives. A goal programming approach.* IIT Delhi. Prof. Prem Vrat.

13. Sekar, R. *Persistent polarization studies in the poly blends of poly (methyl methacrylate) and poly (vinyl acetate).* IIT Delhi. Dr. T.C. Goel and Prof. P.K.C. Pillai.

14. Sinha, Sachchidanandan Prasad. *Computer aided analysis of hydraulic press structures.* IIT Kharagpur.

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(To be revised)

### Qualifications & Experience

(a) B.E./B. Tech. in Electronics/Telecommunications/Electrical Engineering or equivalent from a recognised University.

(b) At least ten years' professional experience in installation, operation and maintenance of radio and TV production equipment and facilities preferably in a broadcasting organisation.

OR

(a) M.E./M. Tech in Electronics/Telecommunications/Electrical Engineering or its equivalent.

(b) At least seven years' experience in installation, operation and maintenance of radio and TV production equipment and facilities preferably in a broadcasting organisation.

### Desirable

(a) Good knowledge of television systems in India and abroad and familiarity with television standards of different countries.

(b) Training in TV technical operations and maintenance from a recognised institute in India or abroad

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Scale of Pay : Rs 1200-50-1300-60-1900

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(b) At least five years' experience in maintenance of radio and/or TV production equipment and facilities.

OR

(a) M.E./M. Tech. in Electronics/ Telecommunications/Electrical Engineering or its equivalent.

(b) At least three years' experience in maintenance of radio and/or TV production equipment and facilities.

### Desirable

Good knowledge of broadcasting systems in India and abroad.

Age Limit : 45 years

## 3. Producers

Scale of Pay : Rs. 700-40-1100-50-1600

(To be revised)

### Qualifications & Experience

(a) Master's Degree from a recognised University, preferably in Mass Communications/Instructional Technology/Distance Education/Journalism.

(b) At least five years' experience in planning and production of radio/TV programmes.

### Desirable

(a) Practical experience in production of educational TV/radio programmes.

(b) Ability to handle a variety of subjects and formats for production of a radio/television programmes including plays, features, documentary, etc.

Age Limit : 35 years

## 4. Senior Graphic Artist

Scale of Pay : Rs. 700-40-1100-50-1600

(To be revised)

### Qualifications & Experience

(a) Degree from a recognised University.

(b) Degree/Diploma in Fine Arts/Commercial Arts/Graphics/Design/Animation from a recognised University or institution.

(c) At least five years' experience of production of Graphics for television/film/advertising agency.

### Desirable

Experience of working with video animation equipment.

Age Limit : 35 years

## 5. Assistant Engineers

Scale of Pay : Rs 700-40-900-EB-40-1100-50-1300

(To be revised)

### Qualifications & Experience

(a) B.E./B. Tech. in Electronics/Telecommunications/Electrical Engineering or its equivalent from a recognised University.

(b) At least two years' experience in installation, operation and maintenance of radio/TV production equipment and facilities.

### Desirable

Good knowledge of broadcasting systems in India and abroad.

Age Limit : 35 years

## 6. Research Officers

Scale of Pay : Rs. 700-40-900-EB-40-1100-50-1300

(To be revised)

### Qualifications & Experience

(a) Master's Degree from a recognised University

preferably in Mass Communication/Instructional Technology/Distance Education/Journalism.

(b) At least five years' experience in the field of formative/summative/process/feedback research.

**Desirable**

Doctorate in any of the above fields.

**7. Analyst/Statistician**

**Scale of Pay :** 700-40-900-EB-40-1100-50-1300

(To be revised)

**Qualifications & Experience**

(a) Master's Degree in Statistics.

(b) Five years' experience in statistical analysis preferably in the field of communication research.

**Desirable**

(a) Knowledge of computer systems as applied to statistical studies.

(b) Doctorate Degree in Statistics.

**8. Cameramen**

**Scale of Pay :** Rs. 2000-60-2300-EB-75-3200-100-3500 (Revised)

**Qualifications & Experience**

(a) Degree from a recognised University.

(b) Diploma in Cinematography from FTII or equivalent.

(c) At least two years' experience of working with film/video camera.

**Desirable**

(a) Experience of working in a television organisation.

(b) Good knowledge of broadcasting systems in India and abroad.

**Age Limit :** 35 years

**9. Editors**

**Scale of Pay :** Rs. 2000-60-2300-EB-75-3200-100-3500 (Revised)

**Qualifications & Experience**

(a) Degree from a recognised University.

(b) Diploma in film/video editing from a recognised institute.

(c) At least two years' experience in video-film editing.

**Desirable**

Experience of working with A/B roll U-matic editing systems.

**Age Limit :** 35 years

**10. Junior Graphic Artists**

**Scale of Pay :** Rs. 1640-60-2600-EB-75-2900 (Revised)

**Qualifications & Experience**

(a) Degree from a recognised University.

(b) Degree/Diploma in Fine Arts/Commercial Arts/Graphics/Design/Animation from a recognised University or institution.

(c) Three years' experience in production of Graphics for television/film/advertising agency.

**Age Limit :** 30 years.

**11. Floor Manager**

**Scale of Pay :** Rs. 1640-60-2600-EB-75-2900 (Revised)

**Qualifications & Experience**

(a) Degree from a recognised University.

(b) Diploma in stage craft from a recognised institution.

(c) Three years' experience of floor management in television/film/stage.

**Age Limit :** 30 years.

**12. Set Designer**

**Scale of Pay :** Rs. 1640-60-2600-EB-75-2900 (Revised)

**Qualifications & Experience**

(a) Degree from a recognised University.

(b) Diploma in stage craft from a recognised institution.

(c) Three years' experience in set design for television/film/stage.

**Age Limit :** 39 years.

**13. Research Assistant**

**Scale of Pay :** Rs. 1640-60-2600-EB-75-2900 (Revised)

**Qualifications & Experience**

(a) Master's Degree from a recognised University preferably in Mass Communication/Instructional Technology/Distance Education/Journalism.

(b) At least three years' experience in the field of formative/summative/process/feedback research.

**14. Library Assistant**

**Scale of Pay :** Rs. 1640-60-2600-EB-75-2900 (Revised)

**Qualifications & Experience**

(a) Master's Degree from a University.

(b) Minimum one year's experience in processing, maintaining coding, labelling and distribution of educational audio and video cassettes.

Persons working in Communication Libraries would be preferred.

**Age Limit :** 30 years.

**15. Make-up Assistant**

**Scale of Pay :** Rs. 1400-40-1800-EB-50-2300 (Revised)

**Qualifications & Experience**

(a) SSC passed.

(b) Diploma or Certificate from a recognised institution with specialisation in make-up.

**OR**

(c) Three years' practical experience in make-up for television/film/stage.

**Age Limit :** 30 years.

**16. Store Keeper (Technical)**

**Scale of Pay :** Rs. 1400-40-1800-EB-50-2300 (Revised)

### **Qualifications & Experience**

(a) Diploma in Electrical Engineering/Electronics from a recognised institution.

(b) At least two years' experience in procurement of electronic items and maintenance of technical stores in a reputed organisation.

#### **Desirable**

Knowledge of import procedures

Age Limit : 30 years

### **17. Deputy Registrars**

Scale of Pay : Rs. 1200-50-1300-60-1900

(To be revised)

### **Qualifications & Experience**

(a) Eight years' experience as Lecturer in a college or a University with experience in educational administration.

OR

(b) Comparable qualifications in research establishment and other institutions of higher education.

OR

(c) At least a Master's degree with ten years of experience of University Administration.

#### **Desirable**

Experience in areas such as purchase and stores, recruitment and establishment matters, governance of Universities, registration (admission) and examination (evaluation) and general administration of Universities.

### **18. Assistant Registrars**

Scale of Pay : Rs 700-40-1100-50-1600

(To be revised)

### **Qualifications & Experience**

(a) Good academic record with at least Second Class Master's Degree in (C in the Seven point scale) and at least three years' experience in educational administration.

OR

(b) At least a Second Class Graduate with five years of experience of University Administration.

#### **Desirable**

Experience in areas such as recruitment and establishment, purchase and stores, governance of the University, registration and evaluation, estate management, general administration, expertise in procurement, storage, distribution and documentation of stores and materials.

### **19. Junior Stores Officer**

Scale of Pay : Rs. 2000-60-2300-EB-75-3200-100-3500 (Revised)

#### **Job Requirements**

The job involves storage, holding, accounting and documentation of educational material including preservation of such material and supervision over the functions of Store Keepers and the documents maintained by them.

### **Qualifications & Experience**

(a) Degree from a recognised University

(b) Proficiency in English and Hindi.

(c) Should possess technical knowledge on store preservation.

(d) At least ten years' experience in store holding.

(e) Adequate knowledge of fire-fighting and fire prevention measures.

Age Limit : 40 years.

### **20. Store Keepers**

Scale of Pay : Rs. 1200-30-1560-EB-40-2040  
(Revised)

### **Job Requirements**

The job involves both theoretical and practical knowledge in storage, receipt, issue and accounting of all educational material held in the warehouse.

### **Qualifications & Experience**

(a) Degree from a recognised University.

(b) Proficiency in English and Hindi.

(c) At least five years' experience in receipt, issue, accounting and documentation of stores.

(d) Should possess knowledge and expertise in stores preservation and in fire-fighting and fire prevention measures.

Age Limit : 30 years.

### **General Conditions**

(i) Candidates called for interview from outside Delhi would be paid single second class railway fare to and fro Delhi by the shortest route from their place of residence/work.

(ii) 15% of the total number of vacancies are reserved for SC candidates and 7½ per cent for ST candidates respectively.

(iii) Age relaxable by five years for SC/ST candidates.

(iv) Persons working in Government/University/Public Undertaking should send their applications through proper channel.

### **How to Apply**

Applications on foolscap sheets of paper neatly typed or handwritten giving complete bio-data, the format of which is given below, alongwith attested copies of educational/technical qualifications, experience, etc., should be addressed to the Registrar, Indira Gandhi National Open University, YMCA Cultural Centre, 1, Jai Singh Road, New Delhi-110001 and should reach latest by 16 November, 1987. A recent passport size photograph, duly signed by the candidate, must be affixed at the right hand corner of the application.

Post applied for .....  
 Scale of Pay .....  
 Advertisement No. & Date .....  
 1. Name .....  
 2. Father's Name .....  
 3. Date of Birth & Age .....  
 4. Permanent Address .....  
 5. Address for Communication .....  
 6. Whether Belonging to SC/ST/Ex-Servicemen .....  
 7. Educational Qualifications .....

PHOTO-  
GRAPH

Examina- tion Passed	Univer- sity	Institu- tion	Sub- jects	Divi- sion	Percentage of Marks	Year of Passing
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#### 8. Professional/Technical Qualifications

Examina- tion Passed	Univer- sity	Institu- tion	Sub- jects	Divi- sion	Percentage of Marks	Year of Passing
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9. Details of Training, if any .....

10. Experience .....

Name & Address of Employer (s) .....

Period of Employment (From—To) .....

Basic Pay, Pay-Scale & Total Emoluments Per  
Month .....

11. Designation and Nature of Duties (in brief) .....

12. Any other information.....

13. Signature of the Applicant .....

In case, an applicant wishes to apply for more than one post, separate application for each post should be sent. Canvassing of any sort would disqualify candidature.

PLEASE SUPERSCRIBE THE NAME OF THE POST AND POST NUMBER ON THE TOP OF THE ENVELOPE AS WELL AS ON THE APPLICATION. Incomplete and illegible applications are liable to be rejected.

#### Note

1. The University reserves the right to restrict the number of candidates to be called for the interview.
2. It would be open to the University to consider the names of suitable candidates, who may not have applied. Relaxation of age and any of the qualifications may be made in exceptional cases in respect of all the posts on the recommendation of the Selection Committee.
3. The University reserves the right not to fill up any of the vacancies advertised if the circumstances so warrant.

REGISTRAR

Advertisement No. 4/Admn./1987

### PUNJABI UNIVERSITY PATIALA

Advt. No. 55/PRO/Rect. October, 1987

Applications are invited for the following posts so as to reach the Registrar, Punjabi University, Patiala on or before 14.11.87.

#### 1. Professor in Physics : One

Grade : Rs. 1500-60-1800-100-2000-125/2-2500 (UGC)

Specialization : Electronics/Materials Science, Optics.

2. Lecturers : Four in the Deptt. of Physics and one each in the Deptts. of Journalism & Mass Communication and Correspondence Courses in the subject of Economics.

Grade: Rs. 700-40-1100-50-1600 (UGC)  
Specializations

Lect. in Physics : For 1st Post :

The candidate should have first or High Second Class M.E.M. Tech degree in Electronics. Preference will be given to candidates having post-graduate teaching experience and experience in the field of Television.

For 2nd post: Solid State Physics (Theoretical)

For 3rd post: Nuclear Physics (Theoretical)

For 4th post: Electronics/Computer Science

Lecturer in Economics (C.C.) Political Economy of Development.

3. Medical Officer (University Health Centre) One

Grade: Rs. 940-30-1000-40-1200/50-1400/60-1700-75-1850+NPA as per Govt. rules subject to the condition that pay+NPA does not exceed Rs. 2300/- p.m.

#### 4. University Research Scholarships

(One each in the Departments of Sanskrit & Pali, History, Sociology & Social Anthropology, Defence Studies, Business Management, Statistics, Mathematics and Journalism & Mass Communication). @ Rs. 800/- p.m. fixed for two years in the first instance.

Age Limit: Preferably below 30 years (40 years for women candidate)

#### Note

1. Candidates who have already applied for the post of Professor and Lecturers in Physics, NEED NOT APPLY AGAIN.

2. For the post of Professor, the Vice-Chancellor could place before the Selection Committee names of suitable persons for consideration alongwith the applications received in response to the advertisement.

3. It is not obligatory to call for Interview every candidate who possess the essential qualifications.

4. The number of vacancies may change.

5. Candidate must possess working knowledge of Punjabi

6. The Selection Committee might relax the qualifications experience in exceptional cases.

7. The qualifications for the posts of Professor, Reader and Lecturer will be as laid down by the U.G.C. and details will be supplied alongwith the application form.

APPLICATION FORMS can be obtained from the Head of our Publication Bureau, on payment of Rs. 5/- at the counter OR by sending IPO for Rs. 5/- in favour of the Registrar, alongwith self-addressed envelope of the size 25×10 cms. with postage worth Rs. 3.40, superscribing on it APPLICATION FORM FOR THE POST OF.

REGISTRAR



**NATIONAL GEOPHYSICAL  
RESEARCH INSTITUTE  
(COUNCIL OF SCIENTIFIC AND  
INDUSTRIAL RESEARCH)  
HYDERABAD—500 007**

**Advertisement No. 2/87**

Applications are invited for the following posts in the National Geophysical Research Institute, Hyderabad-500 007.

(Abbreviations used : EQ—Essential Qualifications, JR—Job Requirement; FE—Field of Experience; and RS—Relevant subject)

**I. Scientist 'EI' (Gr. IV(3) (Rs. 3700-125-4700-150-5000) OR Scientist 'EII' (Gr. IV(4) (Rs. 4500-150-5700) : 2 posts. (Post No. 1) (1 post) :**

(EQ) : (a) First Class Master's Degree in Physics/Mathematics/Statistics/Computer Science or a First Class B.E./B.Tech in Electronics and Communication Engineering/Computer Science, with 12 years' experience. Duration of experience relaxable in case of exceptionally qualified candidates.

**OR**

(b) M.E./M.Tech. or Ph.D. in any of the above disciplines, with original work as evidenced by publications, with 10 years' experience. Of the total experience, at least 3 years should be related to the management of a multiuser computer facility.

(JR) : This is a position of leadership requiring capability to guide an operation and maintenance group to provide efficient professional support to the management of a mainframe computer centre. The incumbent will have to monitor the performance of the system, and interact with the system software personnel, maintenance agency and the user scientists.

**(Post No. 2) (1 Post)**

(EQ) : First class Master's Degree in Geophysics/Geology/Physics / Chemistry with 12 years' experience in Mineral Physics

**OR**

M.Tech/Ph.D. in any of the above disciplines with 10 years' experience in Mineral Physics.

Original work as evidenced by publications and patents.

(JR) : Ability to generate, Plan and Organise Researches towards the study of Equations-of-State and other Physico-Chemical Characteristics of Minerals in the earth's interior using modern approaches and analytical techniques.

**II. Scientist 'B' (Gr. IV(1) (Rs. 2200-75-2800-EB-100-4000) OR Scientist 'C' (Gr. IV(2) (Rs. 3000-100-3500-125-4500). 5 Posts : (One post reserved for SC Post No. 5)**

(EQ) : For Scientist Gr. IV(1) : First Class Master's Degree OR First class B.E./B.Tech. or M.E./M.Tech./Ph.D. (Science) in the indicated discipline.

For Scientist Gr. IV(2) : Educational Qualifications as for Scientist Group IV(1) above, but with experience, in indicated field, of atleast 6 years after Master's Degree, 4 years after Tech./M.E, or 2 years after Ph.D.

(Post No. 1) : Discipline : Physics/Mathematics/Statistics/Computer Science/Electrical/Communication Engineering.

(F.E.) : Geodetic computation and data processing or Astronomical Radio Interferometry or Signal Processing for enhancement of Signal/Noise ratio and detection of signal buried in noise.

(J.R.) : Correlation processing of radio interferometric data, Geodetic computations using astronomical and terrestrial data and estimation of relative movement between different stations by using Very Long Base Line Interferometry (VLBI).

(Post No. 2) : Discipline : Geophysics/Physics Mathematics / Statistics, Computer Science, Electrical Communication Engineering

(F.E.) : Development and use of System Utilities and Software libraries in a Computer System

(JR) : Supporting the management of System Software facilities of a mainframe computer and development of special purpose system software facilities.

(Post No. 3) : Discipline : Electronics/Communication Engineering/Computer Science/Instrumentation.

(F.E.) : Familiarity with digital and analog data acquisition apparatus, interfacing digital equipment for data transfers, and/or field Geophysical instruments.

(JR) : Operation and maintenance of airborne/ground electronic instruments, electronic navigation aids, etc. Duties will include in flight operation of instruments during surveys whenever required.

(Post No. 4) : Discipline : Electrical Engineering.

(F.E.) : Operation of electrical power supply and support system involving generators, uninterruptible power supply, air conditioners, etc.

(JR) : Maintenance and monitoring of an electrical support system for continuous, uninterrupted operation of a mainframe computer system; interaction with operation and maintenance personnel.

**(Post No. 5) (Reserved for S.C.)**

**Discipline :** Electronics/Communication Engineering/Computer Science.

(F.E.) : Work with digital data acquisition system, radio telemetry and/or digital seismological observatory apparatus and experience of independently running and maintaining such system.

(JR) : Running and maintenance of a digital seismic telemetry system. Posting will normally be at seismic field station, away from headquarters.

**III. Technical Assistant Group III(2) (Rs. 1640-60-2600-EB-75-2900) : (5 Posts); (Two Posts Reserved for SC and One Post reserved for ST candidates);**

**Post Nos. 2 and 3 Reserved for SC.**

**Post No. 4 Reserved for ST.**

(EQ) : Bachelor's Degree in Science. OR Three-year Engineering Diploma in relevant subject or equivalent, 3 to 5 years' experience in relevant field. OR M.Sc./B.E./B.Tech. or equivalent in relevant subject.

(Post No. 1) : R.S. : Physics/Mathematics / Geophysics / Electronics / Communication Engineering.

(F.E.) : Operation and maintenance of Seismological Observatory apparatus.

(JR) : Operation and maintenance of Seismological Stations in remote areas in the Northeastern region of India where the incumbents will be posted. Preparation and processing of data collected at these stations.

(Post No. 2) R.S. : (Reserved for SC) Refrigeration/Air conditioning/Electrical Engineering.

(F.E.): Repair & maintenance of airconditioners and/or refrigerators.

(JR) : Repair and maintenance of Airconditioners and refrigerators.

(Post No. 3) R. S. : (Reserved for SC) Horticulture/Agriculture (with horticulture as a subject of study).

(F.E.): Planning and implementation of landscape development and horticulture. Use of modern manures, pesticides etc.

(JR) : Development of lawns, groves, flower beds and nursery in NGRI. Supervision of staff (mostly Telugu speaking), engaged in plant care and conservation, and development of various shade giving, fruitbearing and ornamental plants.

(Post No. 4) R.S. : (Reserved for ST) Dental Hygiene.

(F.E.): Clinical work in connection with dental care.

(JR) : Attending to prophylactic work relating to dental hygiene, and other tasks entrusted by the doctors in the NGRI Dispensary.

(Post No. 5) R.S. : Physics/Mathematics/Geophysics.

(F.E.): Geophysical data collection/processing. Computer-aided interpretation.

(JR) : Assistance in geophysical modelling and interpretation.

IV. Technical Assistant Group III(1) (Rs. 1400-40-1800-EB-50-2300) : 3 Posts. (Reserved for SC and ST candidates)

Post Nos. 1 and 2 Reserved for S.C.; Post No. 3 Reserved for ST.

(EQ) : Bachelor's Degree in Science, OR Three-year engineering Diploma in relevant subject or equivalent.

(Post No. 1) R.S.: (Reserved for SC) Mining Engineering (3 year-course)/Blaster's Certificate of Competency issued by the Director General of Mine Safety, Government of India, Dhanbad, and Shot Firer's Permit.

(JR) : Loading of shot holes with high explosives, and blasting, as required for seismic exploration, using electrical detonators.

(Post No. 2) R.S.: (Reserved for SC) Mathematics/Physics.

(JR) : Assistance in running seismological observatory in some remote areas and analysis of records relating to earthquake data.

(Post No. 3) R.S : (Reserved for ST) Mathematics/Physics.

(JR) : Assistance in running the geomagnetic observatory of NGRI, preparation of the records, and computer processing of data.

#### GENERAL CONDITIONS

1. Number of posts in some categories mentioned above may increase by the time, the selections are made.

2. The above posts except Gr IV are temporary and likely to continue. All the posts including Gr. IV carry allowances as admissible under the Central Government Rules.

3. Appointment against all the posts of Scientists, Group IV, will be on contract for a period of six years (including two years probation) in the first instance, except for CSIR employees already confirmed against lower posts. The posts of Technical Assistant, falling under Group III, are pensionable subject to Rules and Regulations in force under C.S.I.R.

4. A lower standard of suitability consistent with efficiency will be applied in respect of SC/ST candidates.

5. Candidates with Engineering qualifications, if so required, are liable to serve in any defence service or post connected with Defence of India for a period of not less than four years, including the period spent on training, if any, provided that such persons (a) shall not be required to serve on the above said post after the expiry of the 10 years from the date of appointment and (b) shall not be ordinarily required to serve as aforesaid after attaining the age of 45 years.

6. Candidates belonging to SC/ST communities should invariably enclose an attested copy of Caste Certificate issued by the competent authority with their application, failing which they will not be entitled to the concessions otherwise admissible to them.

7. The prescribed application forms for the above posts may be obtained from the Administrative Officer, National Geophysical Research Institute, Uppal Road, Hyderabad-500007 (A.P.) by sending a requisition alongwith a self-addressed, stamped envelope (23 x 10 cm) affixing stamps worth Re. 1-50 ps on or before 2-11-1987.

8. Separate application is required

to be submitted for each post, even if the posts applied for are from the same category or with the same qualifications, indicating clearly the Advertisement Number, Category Number and post Number (wherever prescribed) of the post applied for.

9. For all the posts reserved for SC ST, General candidates may also apply. However, they will be considered if no suitable candidates are available from SC ST community as the case may be.

10. Applications completed (supported by attested copies of all the certificates and testimonials) alongwith non-refundable fee of Rs 8 - (Rupees Eight only) in the form of Crossed Indian Postal Order drawn in favour of the Director, National Geophysical Research Institute, Hyderabad-500007 (A.P.) should be sent so as to reach him on or before 24 11 1987. The candidates from SC,ST community are exempted from payment of non-refundable fee

11. Candidates called for interview for the above posts will be paid single second class shortest route rail fare to and fro from the actual place of undertaking the journey or from the normal place of residence of the candidate whichever is nearer to Secunderabad Railway Station on the production of relevant documents of travel.

12. Applications from employees working in Government Departments, Public Sector Organizations and Government-funded Research Agencies will be considered only if forwarded through proper channel and with a clear certificate that the applicant will be relieved within one month of receipt of the appointment orders.

13. Incomplete applications will be summarily rejected.

14. Persons applying for a higher post carrying higher scale of pay may be considered for a post carrying lower scale of pay if he is not suitable for the higher post.

15. Canvassing in any form and/or bringing if any influence, political or otherwise, will be treated as a disqualification for the post.

16. Applications received after the last date viz. 24-11-1987 will not be entertained. Interim Enquiries will not be entertained.

P. Raja Ram  
Administrative Officer (GR. I)